THE DENTAL PRACTITIONER

A Journal of Dental Science for the Practitioner

VOL. IV, NO. 12 AUGUST, 1954

[*Incorporating the Proceedings of the British Society of Periodontology, and the Transactions of the British Society for the Study of Orthodontics*]

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THE
DENTAL PRACTITIONER

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Vol. IV, No. 12 August, 1954

EDITORIAL

NEW BOOKS AND NEW BROOMS

In many ways the health of a profession may be gauged by the reputation and authority of its text-books. This being so, it would appear that the dental profession in this country is anything but ill, despite the groans and death rattles which are heard from various quarters. Some notable books have been written on the science of dentistry since the war and many more are awaiting publication in the near future. Admittedly it can be argued that we are all inundated with forms, that the financial blood-pressure is too low, and that we are generally a little fed up with our work and everything that goes with it. Nevertheless, spiritually the profession is in good health. It is were not so we should really be in the doldrums, there would indeed be little left to live for. There has been, over the past ten years, an upward surge of enthusiasm to seek and search for truth in our knowledge of dentistry which has led to an improvement in treatment. This country has played its part in this investigation and deserves great credit for its own individual achievements, both in its research and publications. It is a side of dentistry that tends to be forgotten when the profession is discussed. The good of the profession far outstrips the small amount of evil which is inherent in all sections of the community, so why think only of the evil aspects? Despite all that has been said recently it is still a worth-while profession for a student to enter. Many of the newer text-books have been specially written for the student to equip him for his life's work, and he starts out on qualifying in a position as good as any other university-trained man. At this holiday time when we leave our practices to get away from it all and seek solace in the sun (if we can find it), let us resolve that we will speak to our fellow men of the achievements of dentistry, for if each one of us gained one recruit to take up dentistry as a career there would be no future shortage in the dental profession. The House of Dentistry must be built on the firm foundation of the rock of faith, not on the shifting sands of pessimism.

DENTAL POSTGRADUATE BUREAU
Publications

The following booklets were issued by the Dental Postgraduate Bureau, The Dental Board of the United Kingdom, 44, Hallam Street, London, W.1, in April, 1954. The titles are self-explanatory and the booklets may be obtained from 44, Hallam Street, London, W.1.

1. *Higher Dental Qualifications.*
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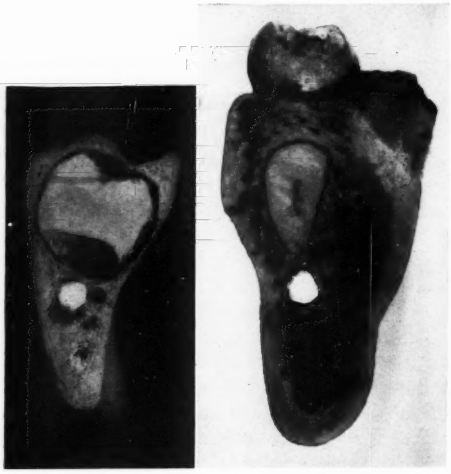
3. *Scholarships and Studentships for Advanced Studies and Research in Dentistry.*

THE RELATIONSHIP OF THE MANDIBULAR THIRD MOLAR TO THE MANDIBULAR CANAL

By **A. E. W. MILES**, F.D.S., L.R.C.P., M.R.C.S., and **W. H. WEST**, L.D.S. R.C.S.
Department of Dental Pathology, The London Hospital Medical College

It is well known that the apices of the third molars are often in close relation to the mandibular canal. In vertical sections in the coronal plane through the third molar region the canal may be found to lie on the buccal or lingual side of the roots or immediately below them (*Fig.* 1 B). From lateral and occlusal radiographs of over a hundred mandibles with a wire in the mandibular canal, Bremer (1953) estimated that the canal is most often situated in a plane buccal to the roots of the third molar. As pointed out by Sicher (1952), the closeness of the relationship depends upon the ratio between the length of the roots and the height of the body of the mandible—that is, the relationship is likely to be close when the roots are long and the vertical height of the ramus is low.



A B

Fig. 1.—A, Mesial surface of coronal section through right mandible and developing third molar. White plasticine has been inserted in the mandibular canal. (× 1·75.) B, Mesial surface of coronal section through left mandible anterior to $\overline{8}$. White plasticine has been inserted in the mandibular canal. (× 1·75.)

Occasionally the root or roots of the third molars are grooved by the canal (*Figs.* 2, 3). Rodier (1920) reported a group of such cases, and Bulleid (1921), Edwards (1929), Henry (1935), Henry and Morant (1936), Sheridan (1941), and Beauchamp (1947) have reported single examples. The groove may be on either the lingual or buccal sides of the roots or the apices may be grooved or bifurcated by the canal. Very rarely the roots are apparently perforated by the canal or its contents. Four of the 15 cases described by Rodier (1920) were of this character, and other examples have been reported by Hoare (1926), Anderson (1943), Austin (1947), Beauchamp (1947), and Sealey (1949). The so-called perforation is usually formed by buccal and lingual roots embracing the canal and meeting or being joined, apparently by cementum, beneath it. Less frequently, however, there is a canal

Fig. 2.—View of impacted left mandibular third molar with lingual bone removed. The lingual aspects of the apices are grooved by the mandibular canal in which a white cord is inserted.

running through the dentine of the body of the root or roots, as in the specimen depicted in *Fig.* 4 B. The canal in this specimen is too small to have accommodated the whole of the

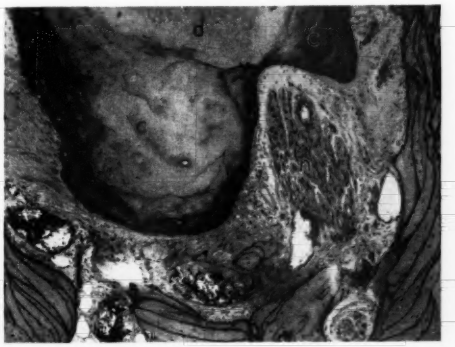
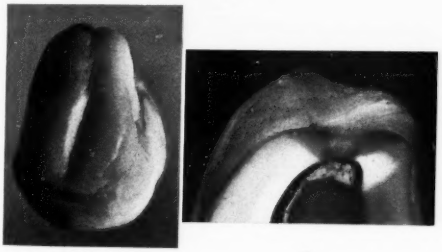


Fig. 3.—Man aged 42 years. Coronal section through apex of mandibular third molar. The apex is covered by a thick layer of cementum which presents a groove which accommodates a branch of the mandibular nerve. *d.*, dentine; *c.*, cementum; *n.*, nerve. Stained hæmatoxylin and eosin. (× 37·5.)

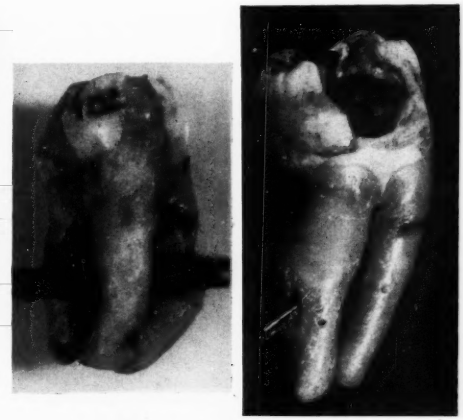


A B

Fig. 5.—A, Apical surface of cementosed root of mandibular third molar showing anteroposteriorly disposed groove. B, Ground section showing thickness of cementum. (× 4).

contents of the mandibular canal and presumably transmitted either a branch of the nerve or a blood-vessel. One of the specimens described by Henry (1935) had, in addition to a broad groove on the apex, a narrow canal passing through the body of the root.

In nearly all the recorded cases of grooves and perforations where the relevant data are given, the teeth have been impacted. Consideration of the relationship of developing third molars to the mandibular canal shows how the condition arises. When formation of the roots of the third molar is commencing the mandibular canal is situated immediately below the tooth crypt, as is shown in *Fig.* 1 A.



A B

Fig. 4.—A, Lingual view of left mandibular third molar, from a woman aged 36 years, with roots which embraced the mandibular nerve. The tooth was isolated and inclined mesially. A rod is placed in the position of the nerve. On lifting the tooth from its socket it felt as if held by a rubber band. The tooth was replaced and removed by dividing the roots so that the nerve could be left intact. Anæsthesia of the lip persisted for two months, at the end of which sensation began to return. Recovery was complete six weeks later. B, Right mandibular third molar perforated obliquely by a narrow canal in which a wire is inserted. The canal is too narrow to have accommodated the whole of the contents of the mandibular canal and it presumably accommodated a branch of the nerve. No history relating to this specimen is available.

Normally as the roots grow the tooth is carried upwards by growth of the alveolar process, which increases the height of the ramus. Furthermore, during eruption the whole tooth moves axially through the bone away from the canal, so that the relationship of the apices to the canal tends to become less intimate. When the tooth is impacted, however, the movement of the tooth away from the canal is interfered with and the developing roots may encroach upon the canal and be deflected by it or grow around it to a varying extent. Occasionally a groove on the root surface may be the result of the deposition of cementum on the surface of

a root which already has a close relationship to the mandibular canal (*Fig.* 5).

Cases of second molars grooved or perforated for the mandibular canal have been recorded by Rodier (1920), Parfitt (1921), Puig (1922), Balough (1930), Beauchamp (1947), and Jackson (1951). In five of these six cases the tooth was unerupted and impacted and situated at a very low level in the jaw, in some instances with the apices near the inferior border of the mandible. In three cases the third molar was grooved as well.

The extraction of a tooth that is grooved by the canal often results in some injury to the nerve, especially if the groove is situated on the side of the root. The nerve injury manifests itself as anæsthesia of the lower lip, which is often transient. The extraction of a tooth with roots completely embracing the canal cannot, of course, be accomplished without severing the neurovascular bundle, unless the condition is diagnosed pre-operatively and the precaution taken of splitting the tooth.

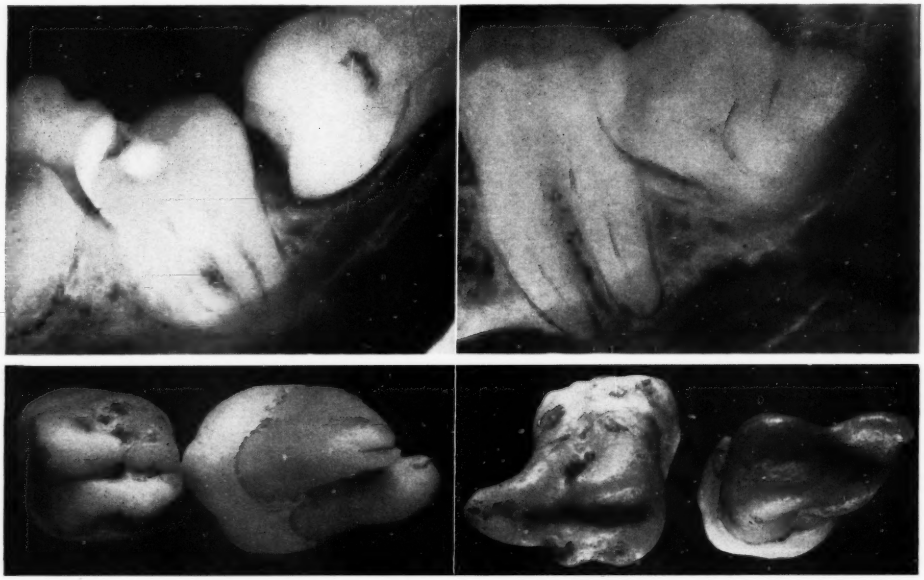


Fig. 6.—Man, aged 27 years. Radiograph showing $\lfloor\overline{7}$ partially "submerged" and impacted against $\lfloor\overline{5}$, and $\lfloor\overline{8}$ horizontally disposed. The outline of the mandibular canal can be seen crossing the roots of $\lfloor\overline{7}$ as a dark zone. Below are depicted the inferior surfaces of $\lfloor\overline{78}$ disposed as they were *in situ* and showing a broad groove on the apices of $\lfloor\overline{7}$ and a smaller groove, which was probably in relation to a branch of the mandibular nerve, on the apex of the anterior root of $\lfloor\overline{8}$. The extractions were followed by transient anæsthesia.

Fig. 7.—Man, aged 41 years. Radiograph showing mesio-angular impaction of $\lfloor\overline{8}$, the apex of which is crossed by the mandibular canal as a dark zone. The radiograph of $\overline{8}\rfloor$ presented a similar appearance. Below are depicted the inferior surfaces of $\overline{8}\rfloor\overline{8}$ showing anteroposteriorly disposed grooves.

In a few of the recorded cases excessive hæmorrhage has followed such extractions, but does not seem to have been a serious source of trouble. Division of the nerve is followed by complete anæsthesia of the lower lip and jaw on that side. It is well known that sensory nerves regenerate providing the cut ends are reasonably close to one another, as is the case where the nerve is lying in a bony canal. Where the inferior dental nerve is severed the ultimate prognosis is therefore good (De Bats and Phillips, 1944). There appears to be no experimental data on the rate of regeneration of the inferior dental nerve but, according to Seddon, Medawar, and

Smith (1943), the rate of regeneration of axons in human spinal peripheral nerves is approximately 1–2 mm. per day and slows progressively as the process of regeneration approaches completion. On this basis, since the distance concerned in damage to the inferior dental nerve in the region of the third molar is very approximately 6 cm., complete regeneration can hardly be expected in less than 2–3 months. The literature shows that in most cases recovery of sensation is complete in from three to twelve months and is usually complete in about six months, the return of sensation being presaged by sensations of tingling or "pins and needles" in the lip.

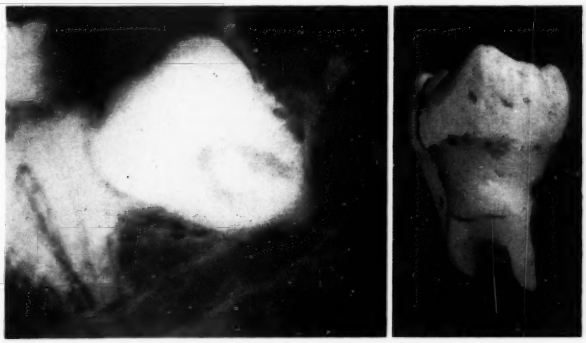


Fig. 8.—Woman, aged 31 years. **A**, Radiograph showing mesio-angular impaction of $\overline{|8}$, the apex of which is crossed by the mandibular canal as a dark zone. The canal appears to be slightly constricted and its path is diverted in the region of the apex. **B**, Distal aspect of $\overline{|8}$ showing bifurcated apex which straddled the canal. The morphology of the apex of $\overline{8|}$ and its relationship to the canal was exactly similar.

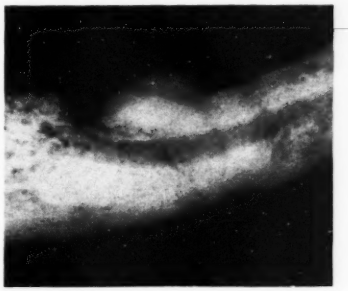


Fig. 9.—Radiograph showing root in left first permanent molar region crossed by outline of mandibular canal as dark zone. Woman, aged 51 years. Complained of numbness of left lip with occasional pain since attempted extraction of this root two years previously. There was loss of sensation of the skin of the left lower lip. On exposure of the root at operation the dark zone seen in the radiograph was found to correspond with a groove on the lingual surface. The mandibular nerve could not be identified and it is presumed that its continuity was destroyed during the original attempted extraction. Two months following the extraction there was no diminution of the sensory loss, but painful sensations were no longer experienced.

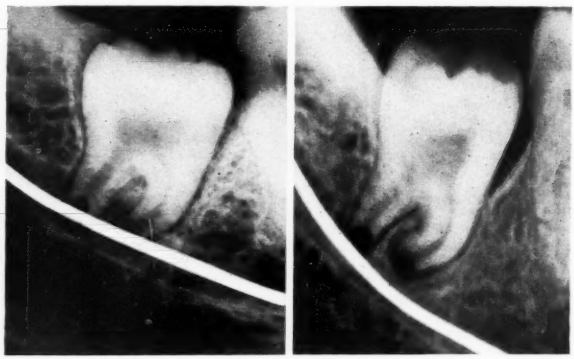
Fig. 10.—Woman, aged 27 years. Radiograph of $\overline{87|}$. The outline of the mandibular canal is superimposed upon and appears to cross that of the root. There is, however, no decreased radio-density of the root at the area of superimposition. The root was *not* grooved. This radiograph may be compared with those in *Figs.* 6–9.

The exact relationship between the mandibular canal and the roots of the molars is not easy to determine radiographically. The superimposition of the outline of the two

structures in lateral radiographs is not alone an indication of a close relationship. Occlusal or vertical radiographs are of little value in this connexion as, owing to the density of the structures when viewed in this manner, the canal can rarely be distinguished. Grooving or perforation of the roots can, however, be at least strongly suspected when, in lateral radiographs, the mandibular canal appears as a dark zone where it crosses the root (*Figs.* 6–10). If in addition the canal appears to be constricted in that situation, grooving or perforation may be even more strongly suspected. This is well illustrated by a case described by Austin (1947) in which the canals showed as dark constricted zones crossing the roots of the third molars well above their apices. On raising the teeth from their sockets both molars were found to be perforated by the inferior dental nerve, which was finally disengaged by splitting the tooth.

These observations on the radiographic appearances were first made by Main (1938) and deserve to be much more widely known as they provide the only means of diagnosing the condition pre-operatively so that damage to the nerve may be avoided, or minimized, by dividing the tooth in an appropriate manner before extracting it. In most cases in the past perforation of the roots has not been recognized until the tooth has been partly elevated from its socket and was felt to be attached to it as if by a rubber band, as in the case illustrated in *Fig.* 4 A.

Confirmatory evidence of a close relationship between root and canal can be obtained by applying the principle of parallax to radiographs of the same region taken from different angles. By this method also it is possible to determine whether the canal is situated on the lingual or buccal side of the root. In addition to a lateral intra-oral radiograph taken in the usual manner, a second film is exposed with the rays directed obliquely from above or below (*Fig.* 11). Objects farthest away from the X-ray tube will in the second radiograph appear to have moved in the same direction that the tube was moved. The relation between the amount of apparent movement and the degree of angulation of the tube is some indication of the distance between objects in the radiographs. If the relation between root and canal alters very little or not at all their relationship is very close, and if the canal appears to move with the tube it is situated on the lingual side of the root, whereas if it moves in the opposite direction it is on the buccal side.



A B

Fig. 11.—A, Radiograph of $\overline{8}|$ region of a mandible with a wire in the mandibular canal, taken with rays directed from the buccal aspect and at right angles to the long axis of $\overline{8}|$. B, Second radiograph taken with rays directed obliquely from above, showing that the apices of $\overline{8}|$ appear to have moved away from the canal in the same direction that the X-ray tube was moved. This means that the canal is situated in a plane buccal to the roots of $\overline{8}|$.

SUMMARY

The relationship between the mandibular canal and the roots of the third molar, and to a less extent the roots of the second molar, is very close. Especially when eruption is interfered with, the close relationship during development of the roots may cause the roots to be grooved or perforated by the canal.

Attention is drawn to a method whereby this condition may be detected radiographically and a number of illustrative cases are described.

Acknowledgements.—We are indebted to the late Sir Frank Colyer, Curator of the Odontological Collection of the Royal College of Surgeons, England, for permission to study the large number of specimens of this condition in the Collection, and for permission to publish the photographs of the four specimens, catalogue numbers A.3.2, C.52.651, C.51.37, and C.52.6, which are depicted in *Figs.* 1 A, 2, 4 B, and 5 respectively. Thanks are due also to Mr. A. L. Gallup, of the Photographic Department, The London Hospital Medical College, for the photography.

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PULPECTOMY IN PERIODONTAL DISEASE

THE author is of the opinion that removal of the pulp is harmless to the periodontium if performed under aseptic technique and provided that a perfect root canal filling is made immediately afterwards. All pulpectomies should be done under local anæsthesia in order to ensure the continued vitality of the tissue in the periapical region. Caustics should not be used as they are liable to damage the tissues around the apex of the tooth. Owing to the danger of traumatizing the periodontal membrane, intragingival or intra-osseous injections are contra-indicated and regional anæsthesia is considered to be the best. The author is in favour of the devitalization of teeth in order to produce abutments in cases of balancing for periodontal reasons. He believes that the extremely meticulous preparation necessary to ensure perfect gingival margins in the restorations can only be achieved if the teeth are previously devitalized.—FONT, J. (1954), *Parodontologie*, **8**, 21.

THE IMPORTANCE OF SAFE MOUTH PACKING

By **S. DRUMMOND-JACKSON**, L.D.S.

One of the most serious problems in operative dentistry has been the lack of efficient means of packing the mouth of a patient under general anæsthesia. The pack should give complete safety from inhalation of any speck of foreign matter, even during operations in the posterior molar regions.

Inhalation of the smallest particles of tooth dust or debris blown from a cavity during conservation work, blood from a socket, or tooth fragment during extraction, may cause a lung abscess, jeopardizing the patient's life. As these complications arise slowly, they are not often associated with the causative dental operation unless some sizeable tooth fragment, recognizable by X rays, has been involved.

Professor Brock, of Guy's Hospital, recently gave his opinion that an appreciable proportion of lung abscesses were caused by infection from material inhaled from the mouth during tooth extraction. He suggested that multiple extractions were the cause. This is not so. Inadequate protection of the air-passages is the true cause. No lung abscess could ever result from complete extractions performed under an endotracheal intubation with adequate throat packing and proper after-care. The same degree of safety would attend full extractions in the dental chair, if safe packing could be assured.

In dental practice packing is effected almost exclusively by mouth packs. Throat packs are used by the anæsthetist when a tube has been passed into the pharynx or trachea to provide a patent airway. Recent correspondence in the dental press has misused the term "throat pack", when "mouth pack" is intended.

The most favoured materials used for dental mouth packing have been of absorbent wool covered with cotton gauze, loose cellulose material similarly covered, layers of gauze or gauze rolls, and natural sponges. Strip or roll packs have the advantage of being adaptable to variations in size and location: sponge packs have elasticity, to compensate for more movement. During mouth breathing they do not dry the inspired mixture as do the gauze swabs: this air-drying is one cause of post-operative sore throat.

The extensive use of natural sponge has been due not only to the advantages of being able to use it slightly moist, but that, being re-usable, and quickly positioned, the pack can be changed frequently during an operation without expenditure of valuable packing time, and without great expense.

What is required of a pack ?—

Absolute safety,
Ease of insertion, control and replacement,
Adequate absorption,
No interference with free respiration,
Tolerance by patient and by tissues,
Access to working area,
Adaptability for most dental requirements,
Non-drying material,
Economy.

Fulfilment of the first essential alone—absolute safety—required many virtues to be combined in one pack. It must not disintegrate to allow any ragged edge to be detached in use: it must afford complete barrier protection against the slightest foreign matter being carried down the airway—even a speck of tooth dust or debris blown from a cavity borne on a powerful inspiration. Once positioned it must stay—a pack which has moved cannot be considered safe—attention may be so concentrated on a difficult operation that movement may not at once be noticed. It must retain these properties in full for a wide range of uses in various parts of many mouths of different size and shape, with variable numbers of teeth.

The variety and ingenuity of available packs specially designed for the purpose showed that the problem has received much attention.

As one seldom operates on both sides of the mouth at the same time, why not concentrate on better protection of a working area, rather than a whole mouth ? This was done, and the

resultant design, simplified, for regional safety, will fulfil all nine essentials.

As soon as its function is understood, the pack can be placed, or replaced, in five seconds. The function of each part, however, must first be understood.

Fig. 1.—A simple mouth pack of fine mesh cellulose. Plastic safety loop reinforced with wire core.

Fig. 2.—Normal position of one mouth pack in use.

In normal use, the central junction of the two flanges is placed behind the last molar on the side of operation. The flange containing the loop passes forward to the buccal side of the teeth, the loop emerges from the corner of the mouth and bends to remain out of the way. The main purpose of this buccal flange is to ensure absolute stability and retention in position of the other, main flange, by positive location of the junction in the retromolar fossa. Direct absorption from the parotid duct to assist in maintaining a dry field, and protection of the cheek, are further functions.

The inner, important, flange is most carefully positioned. It lies between the tongue and the teeth in such a way that the upper edge presses close to the palate. This pressure is maintained especially towards the posterior portion, where, by proper positioning of the junction and retention in this position by the buccal flange, the complete sealing-off of any passage posteriorly is ensured by a definite seal to the palate, the palatoglossal arch, and the tongue. The folded pack is inserted, junction to the back, loop to the buccal side, and quickly positioned so that it fits snugly all round. Either flange is adjusted as necessary and operating may proceed. The lower part of the inner flange falls naturally between tongue and teeth, without pressing the tongue back. In practice, the tongue may be protruded or pulled forward without disturbing the pack, if held in position against the forward tongue movement. This is of real advantage in preventing the complications of stoppage of the airway by pressure backwards on the tongue, or its falling back. Such a momentary problem, using old design packs, often necessitates stoppage of the operation and removal of the pack, while with the improved design described, it is but the work of a moment to correct the tongue position and to proceed.

Fig. 1 shows a simple pack; the substance is fine mesh cellulose, sterilizable by boiling or by dry heat. It does not "slime" as does natural sponge, and clears readily of any collected matter. The safety loop is of plastic reinforced with a wire core.

Fig. 3.—Two mouth packs in use concurrent for bilateral protection.

Fig. 2 shows the normal position of one pack in use. The small bulk of the design will

allow two packs to be used concurrently for bilateral protection, as shown in *Fig.* 3. *Fig.* 4 illustrates the reverse position, used

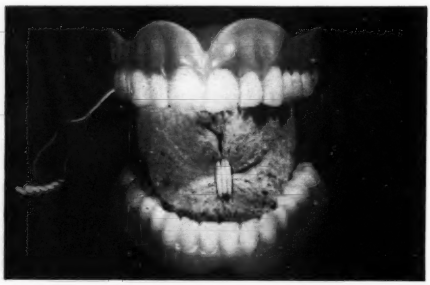

Fig. 4.—Mouth pack in reverse position for operation at front of mouth.

when operating in the front of the mouth. The position is varied according to requirements, so that the junction is never directly behind the site of operation.

During cavity preparation the high absorptive factor and coverage allow the chip syringe to be used even during inhalation without danger. It is only necessary to examine carefully the surface of one of these packs, used instead of rolls during conservation, to learn of the amount of burred powder and infected debris which is inhaled without evidence during everyday dental procedures.

SUMMARY

Inadequate mouth packing constitutes a most serious danger to the patient. Even during conservation, much debris can be inhaled without evidence. Many lung abscesses are considered to be caused by dental procedure carried out without adequate protection.

A study of available mouth packs showed that none gave simple and adequate protection for general dental use.

A mouth pack has been designed, and is described, which provides the necessary safety.

THE USE OF THE TOOTHBRUSH

IN ANSWER to a query regarding the use of a toothbrush and if it is really necessary in the hygiene of the mouth, the following answer is given:—

"The use of a toothbrush is an essential habit for everyone who wishes to have healthy teeth and gums. Brushing the crowns of the teeth removes debris and keeps the surfaces polished, thereby minimizing the risk of decay. Places, such as the interdental spaces, where the bristles cannot reach, are always the danger spots for the start of decay. There is good statistical evidence that toothbrushing immediately after meals reduces the incidence of caries.

"But just as important is the good, not harm, derived from brushing the gum margin, provided it is done with a soft brush and a rotary motion so that the bristles pass from the gum to the tooth surface. Most individuals eating civilized diets need to use a toothbrush regularly to prevent gum diseases, which are caused by stagnation of food debris and tartar around the teeth. The correct use of a soft toothbrush is an essential part of the treatment of all gum diseases, though damage to the gums and teeth can be produced by the incorrect use of a hard toothbrush."—"Any Questions!", *Brit. med. J.* (1954), **1**, 1049.

MALIGNANT DISEASE OF SUPERIOR MAXILLA

THE cases suffering from this disease can be divided into two groups. Firstly, those involving the anterior group of sinuses, the antra and anterior and middle ethmoids; secondly, those involving the sphenoidal and posterior ethmoidal regions. In the latter group the early signs and symptoms are indefinite and not easily recognized, whereas in the former epistaxis and pain are likely to occur in early stages. The age incidence is similar to that of the other types of carcinoma. The histological features are widely varied. Metastases have been found in more than 30 per cent of cases. Diagnosis in later cases is not usually difficult, as the history and clinical features are so very decisive. The combination of surgical and radiotherapeutical treatment gives the best result.—WILSON, C. P. (1954), *Ann. R. Coll. Surg. Eng.*, **14**, 285.

BILATERAL MAXILLARY FOURTH MOLARS

By **D. A. H. BRIGGS**, B.D.S. (Lond.), L.D.S. R.C.S. (Eng.).

Demonstrator, London Hospital Dental School.

A REVIEW of the literature on supernumerary maxillary molars shows that there have been few cases reported of well-formed supplemental molars which have probably arisen from a separate tooth germ from a continuation of the dental lamina, as opposed to a post-permanent dentition.

Stones, in *Oral and Dental Diseases*, states that the presence of supernumerary maxillary molars is more common in black than white

Fig. 1.—Extra-oral radiograph showing $\frac{98|}{8|}$.

races and that they are reduced in size and less well formed.

Thornton (1947) described a case of bilateral supernumerary maxillary molars of reduced size and shape in a white patient, and Vissing (1949), Smith (1949), and Faught (1930) have described cases of fused supernumerary anomalies including a molar in the palate.

A comment in the *British Dental Journal*, **69**, 292, on C. S. Shah's (1940) report in the *Medical Digest* of Bombay raises the controversy of phylogenetics as to whether man's dentition is retrograde or progressive. Bolk held the view that the presence of $\frac{9|9}{9|9}$ found commonly in the black races indicated man's descent from the platyrrhine group of anthropoids, but this point is very controversial.

It could well be that many cases of supernumerary maxillary molars remain undetected

Fig. 2.—Extra-oral radiograph showing $\frac{|89}{8|}$.

unless there are indications for radiographing the $\frac{8|8}{8|8}$ region, and radiographic examination of all cases with crowded arches and non-erupted third molar teeth may bring more of these cases to light.

A case is reported of bilateral supplemental maxillary molars which were discovered by radiographic examination. All the third molars were unerupted and there was anterior protrusion of the maxillary anterior teeth together with crowding. There was also an associated gingivitis and much subgingival and supragingival calculus. The mouth was free from caries. Radiographs showed a

disto-angular impaction of $\overline{|8}$ and a mesio-angular impaction of $\overline{8|}$. $\overline{9|9}$ were also present and well formed, and it was noted that on the left side the $\overline{|9}$ appeared larger than $\overline{|8}$ (*Figs.* 1, 2). These teeth were removed under endotracheal anæsthesia.

Acknowledgements are accorded to Mr. D.F. Soul, F.D.S. R.C.S., who performed the operation of extraction.

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A SYMPOSIUM ON CLEFT PALATE

I. SURGERY IN CLEFT LIP AND PALATE*

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A NUMBER of individuals are concerned in the treatment of cleft lip and palate, and it is important that they should know something of each other's activities. This brief outline of the early surgery is submitted in the hope that your comments and criticisms will be forthcoming.

SINGLE CLEFT OF THE LIP

The lip may be closed surgically at any time after birth, and to-day some modification of the method introduced by Le Mesurier in 1949 is favoured by the majority of surgeons (*Fig.* 1). With this technique it is feasible, in one operation, to produce a lip and nose which are nearly normal in appearance. A general anæsthetic may be given safely to a child of 10 lb. weight, provided he is fit. On the other hand, there is no need to delay closure until that time, and in the first few weeks of life closure is perfectly feasible under local anæsthetic. (*Fig.* 3.) The operation is less hurried, but because the lip is so small the surgeon must wear an operating loupe.

An easier approach is to use two stages. At the first operation at six months the edges of the cleft are simply pared and then sewn together in layers without thought of a shapely lip or a good scar, in fact with no care at all except to join the muscle (*Fig.* 2). At the age of 4 years the lip is rebuilt with care to make shape and scar satisfactory. Shaping the lip is easier because the parts have grown so

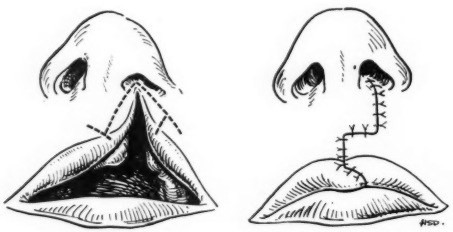

Fig. 1.—The method of Le Mesurier, by which it is possible to produce a lip and nose of nearly normal appearance in one operation.

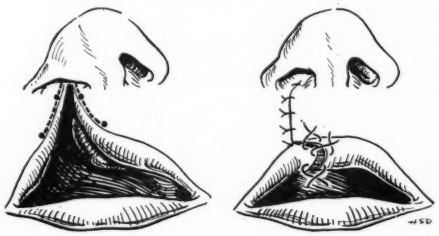

Fig. 2.—As an alternative, the lip may be pared and sewn together in layers at the first operation. Reconstruction is carried out at the age of 4 years.

* Being the first contribution to a symposium at the meeting of the British Society for the Study of Orthodontics held on February 8, 1954.

much, but the scars are never so unobtrusive as those from the earlier operation.

Where the cleft extends through alveolus and palate as well, and the lip closure is done under general anæsthesia, the anterior part of the palate may be closed if there is time. This is a measure of convenience, because the front of the palate is more difficult to approach after the lip closure. Mucosa from the septum is brought across to the edge of the palatal plate and sutured either to the nasal mucosa or to the buccal mucoperiosteum (*Fig.* 4).

DOUBLE CLEFT OF THE LIP

The clefts here are very wide, since, unrestrained by the lip with its band of muscle, the premaxilla is able to swing forwards and upwards, carrying with it the central portion of lip, or prolabium.

The closure is made first on one side, then on the other, with four weeks between. Each edge is pared with care to preserve as much skin as possible, and closure is effected in

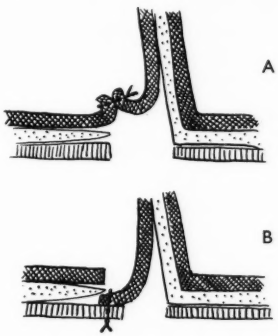

Fig. 4.—Closure of the anterior palate by suturing septal mucosa to either (A) nasal mucosa, or (B) buccal mucoperiosteum.

layers. The anterior palate on the operated side may be closed at the same time. Closure of the lip subjects the premaxilla to a measure of gentle control, and brings it nearer alinement with the maxillæ.

Both clefts may be closed in one operation if the prominence of the premaxilla is reduced surgically by section of the septum. Victor Veau, of Paris, who personally operated on 208 cases of double cleft, was impressed with the unfortunate results of interference with the vomer or premaxilla, and observed that these may not be manifest until late adolescence. Atrophy of the bone was noted following simultaneous dissection of mucosa from either side of the nasal septum even where it

Fig. 3.—Child aged 6 months, who was born with a wide and complete cleft of the left side. This was closed at the age of 19 days, under local anæsthesia.

was not divided, and the insertion of wire sutures through the premaxilla was found to have the same effect.

Reduction of the prominence by ablation of the incisor teeth or removal of the anterior surface of the premaxilla, while improving the immediate appearance, was found ultimately to be disadvantageous.

In the presence of a cleft there is always some degree of deficiency of tissue, and in these double cases this is most marked. This is the principal reason why a result comparable to that available in single clefts is difficult to achieve, and why further operations later in life are more likely to be required.

CLEFT PALATE

Closure is carried out under intratracheal anæsthesia, and the surgeon may think of Langenbeck, a century ago, carrying out much the same procedure with the only anæsthesia available, ice rubbed on the mucosa.

The steps in the operation may be summarized.—

1. Paring the cleft in the soft palate.

2. Lateral incisions from the hamuli which skirt the alveoli and pass forwards to the canine region.

3. Cross-cuts which join the lateral incisions with the cleft, either the front of the cleft where this is comparatively short, or the sides of the cleft where it is extensive. (*Fig.* 5.)

8. The nasal mucosa is closed with sutures of fine silk.

9. The buccal mucoperiosteum and mucosa are closed with mattress sutures of the same material. In the soft palate three of these sutures take a large bite of the muscle, and in that these complete the muscle sling which can later move the palate their insertion may be regarded as the crux of the procedure.

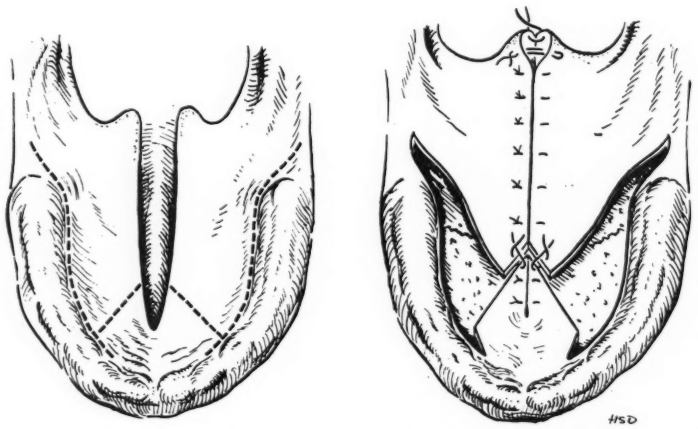

Fig. 5.—Closure of the palate in two layers, employing short anterior and long posterior mucoperiosteal flaps.

4. Elevation of mucoperiosteum so as to free the flaps completely from the bony palate. The edges of the cleft in the hard palate are opened in continuity with the paring already done in the soft palate.

5. The greater palatine vessels are identified as they emerge from the bone, and carefully loosened as they course through areolar tissue for about 5 mm. before entering the mucoperiosteal flap.

6. Each pterygoid hamulus is exposed by blunt dissection, and the tendon of the tensor palati sectioned medial thereto.

7. Nasal mucosa is dissected from each medial pterygoid plate, and then from the palatal plates. In a wide cleft where the edge of the vomer presents, this may be incised sagitally and thereafter denuded of mucosa, which on turning laterally will aid nasal closure.

There are a number of points which are of importance:—

1. Mucosa and mucoperiosteum must be freed from the bone radically, so that there is no tension on the fine silk sutures. If these are tight they will cut through within a few days.

2. The greater palatine vessels should be preserved from damage.

3. The lateral incisions should not be too close to the alveoli, so that the chance of teeth being distorted by nearby scar is minimized.

4. The relative inaccessibility of the anterior end of the palate in the presence of an intact lip has been mentioned, and this is a situation where closure most often proves unsatisfactory. The usual cause is failure to open the cleft all the way; if buccal and nasal mucosæ are left in continuity for just 1 mm. this is enough to guarantee a fistula. If the dissection in this area were scrutinized in a dental mirror prior

to suturing, many of these fistulæ could be obviated.

5. Silk sutures do not require removal, they come away by themselves.

With regard to the age for operation, examination of a small series of personal cases has shown that where the palate has been closed between the ages of six and nine months, 77 per cent were speaking normally, and this is a much better figure than for cases operated on later. Since the series was small, and speech is not easy to assess in children, this percentage may require revision in a few years, but it is outstanding enough to indicate that better speech may be anticipated if operation is performed at this period.

[*Three further contributions will appear in succeeding issues.*]

TOMOGRAPHY IN CLEFT PALATE*

By **FRANK L. INGRAM** D.M.R.D., L.D.S., M.R.C.S., L.R.C.P.
Consultant Radiologist, Eastman Dental Hospital

WHEN the maxilla is deformed by a cleft, it is difficult to demonstrate the deformity by ordinary radiography. The deficiency in the bone can be shown by tomography in vertical para-coronal planes.

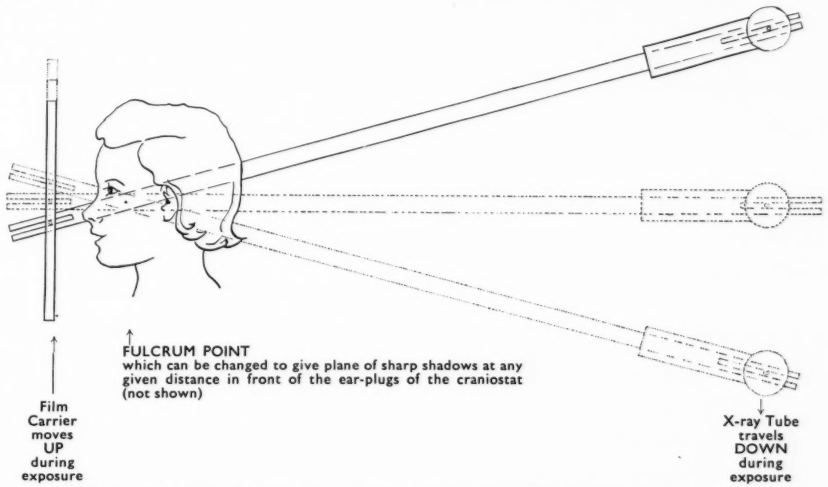
FULCRUM POINT
which can be changed to give plane of sharp shadows at any given distance in front of the ear-plugs of the craniostat (not shown)
Film Carrier moves UP during exposure
X-ray Tube travels DOWN during exposure

Fig. 1.—Simplified diagram of technique for tomographic investigation in cleft palate.

The apparatus is arranged as in *Fig.* 1, with a linking bar connecting the downwards moving X-ray tube with the upwards moving film carrier. This bar rotates during the exposure about a fulcrum point, the position of which can be altered. The head is located by craniostat ear-plugs and the fulcrum point is set at a certain distance in front of these. All objects in the vertical plane through the fulcrum cast sharp shadows on the film, but objects behind and in front of this plane have their shadows blurred by the relative movement of the tube and film about the fulcrum during the exposure.

Films are made with the fulcrum at from $1\frac{3}{4}$ to 3 in. in front of the ear-plugs in $\frac{1}{4}$-in. or $\frac{1}{2}$-in. steps.

The illustrations show films of a normal maxilla at 3 in. (*Fig.* 2); a bilateral cleft at

* A demonstration at the meeting of the British Society for the Study of Orthodontics held on May 10, 1954.

2½ in. (*Fig.* 3), and a right-sided cleft at 1¾ in. and 2¾ in. (*Figs.* 4, 5). The bony floor of the nasal fossa is a thick layer in the normal but a thinned and partially absent layer in the abnormal. The width of the cleft at various parts of the mouth can be judged, and it is hoped that any response to treatment may be observed by repeating the tomograph at 6-monthly and 12-monthly intervals. The position of the chosen plane in each film is indicated by the tooth shadows which appear most sharp.

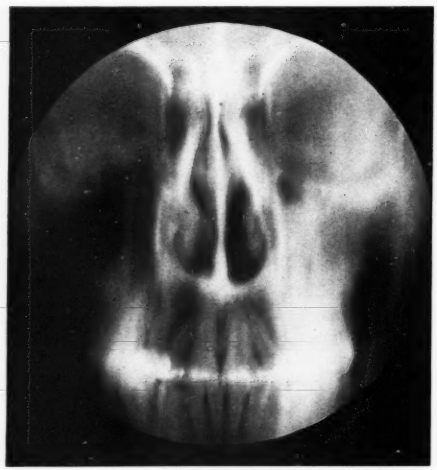

Fig. 2.—Tomograph made through the plane 3 in. anterior to the ear-plugs in a normal maxilla. The incisors are in this plane.

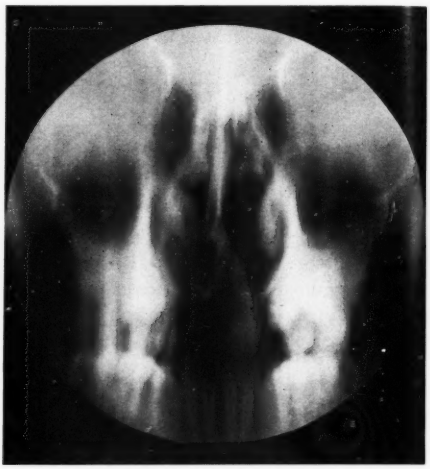

Fig. 3.—Half an inch farther back in a maxilla with a bilateral cleft. Lower incisors are blurred, upper incisor is sharp.

Fig. 4.—Three-quarters of an inch farther back still in a patient with a cleft on the right side. The second molars cast sharp shadows in this plane.

Fig. 5.—The same maxilla in the plane of the incisors.

APPLIANCES USED IN THE ORTHODONTIC TREATMENT OF CLEFT-PALATE CASES*

By **D. P. WALTHER**, D.S.R.C.S., M.R.C.S., L.R.C.P.

THE aim of this demonstration was to show various types of appliances used in the orthodontic treatment of cleft-palate cases.

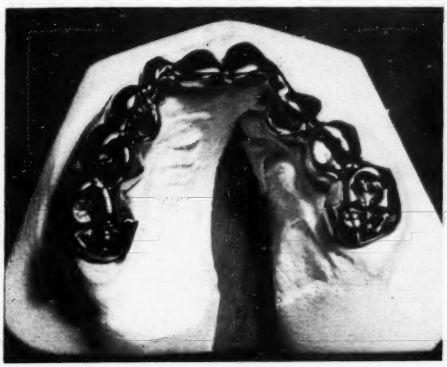

Fig. 1.—Pre-operative splint.

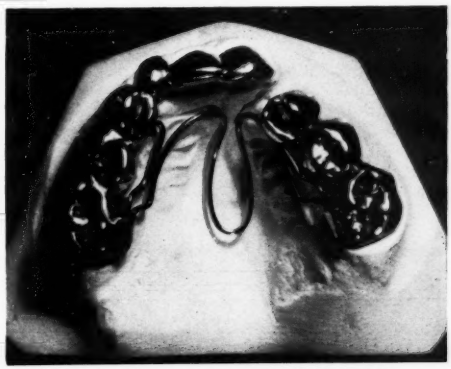

Fig. 2.— Pre-operative splint divided with palatal element.

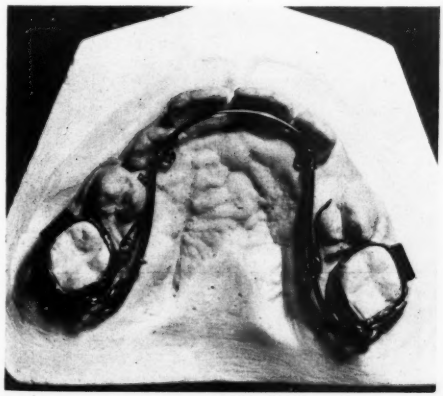

Fig. 3.

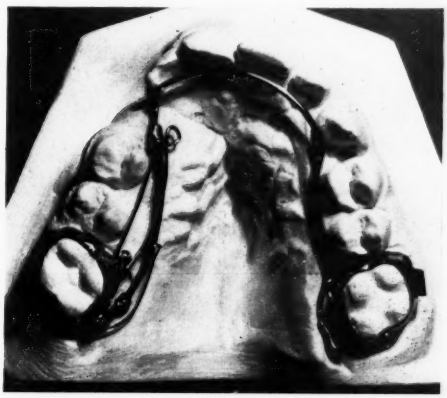

Fig. 4.

Figs. 3, 4.—Fixed appliances with molar rotation springs and auxiliary springs.

A *pre-operation splint* is shown in *Fig.* 1. The lip is closed at the usual early age, but the operation for closure of the cleft of the palate is delayed until the patient is about 2½ to 3 years old. The splint is cemented in just before operation and is left in place for six months. If it is necessary to correct an arch deformity then the splint is divided as shown in *Fig.* 2 and the palatal element fitted. When this has been done the arch is retained with an upper removable appliance. It was explained that, apart from this, no treatment

* A demonstration at the meeting of the British Society for the Study of Orthodontics held on May 10, 1954.

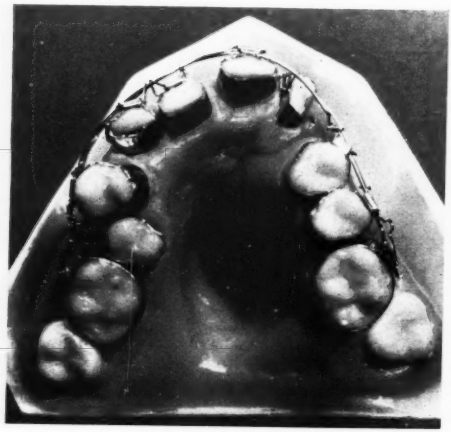

Fig. 5.

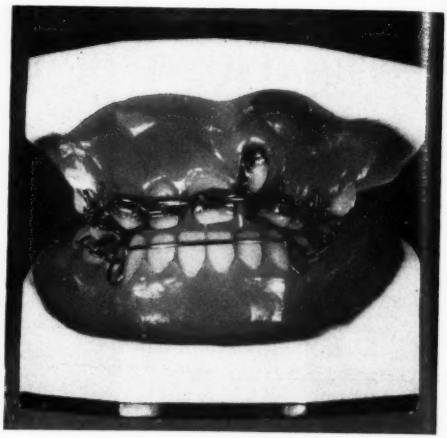

Fig. 6.

Figs. 5–7.—Multiband appliances.

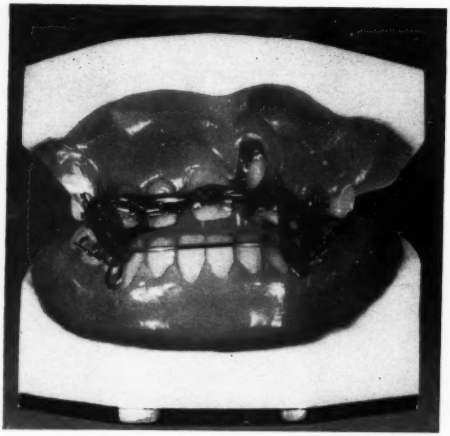

Fig. 7.

Fig. 8.

Fig. 9.

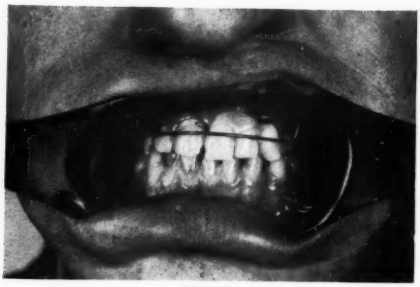

Fig. 10.

Figs. 8–10.—Closure of anterior open bite using multiband appliance technique.

was usually necessary until the eruption of the permanent incisors.

An appliance called a McNeil's stimulator was shown; this is being given a trial in cases about this age at The Hospital for Sick Children, Great Ormond Street. It is claimed that it will close perforations left in the palate not only with soft tissue but with deposition of bone. Up to date we have had no positive results. It is usual for the perforations to become smaller by proliferation of soft tissue, especially if covered by a simple acrylic plate.

Removable appliances were then shown with palatal springs to correct the lingual occlusion of the upper incisors. Some of these incorporated several methods of upper expansion. It was pointed out that it was generally preferred to delay the upper expansion and swinging out of the buccal segment until the premolars had erupted.

Fixed appliances were then shown (*Figs.* 3, 4), with rotation springs from a palatal arch to rotate the molars if necessary and auxiliary palatal springs when required.

The advantages of using an upper multiband appliance (*Figs.* 5–7) with a 0·022 in. (0·55 mm.) buccal arch with third power bends and loops was explained, incorporating a fine 0·014 in. (0·35 mm.) auxiliary arch if very gentle pressure was required. It was pointed out that this type of appliance was especially useful in treating the anterior open bite which is so common in these cases. A removable lower or fixed appliance can be used with anterior intermaxillary elastic for this.

Large serial photographs of patients before, during, and after treatment were also shown. These demonstrated the successful closure of this anterior open bite (*Figs.* 8–10).

PIGMENTED CONGENITAL EPULIDES OF NEURO-EPITHELIAL ORIGIN

THE term "epulis" means a tumour on the gum. In young infants, the congenital form of epulis is now generally described as a granular-cell "myoblastoma". The case describes for the first time in British literature a rare case of congenital epulis of neural structure, with melanin pigment, and derived from retinal rudiments.

A two-month-old infant was admitted into a hospital with a swelling of the upper gum, first noticed when he was one month old. This was considered to be a bone cyst at the junction of the premaxilla and maxilla. This cyst was shelled out of its bony bed intact, and the histological report was "the dark staining cells in solid masses defined by loose fibrovascular strands, with larger clear cells". Three weeks later recurrence was noted and the growth continued to increase slowly in size. A more radical local excision was carried out. No cyst was present but there was solid dark tissue. Histological findings were as follows: Three structural types of growth could be noted. (1) Solid alveolar pattern, (2) clefts of primitive tubules lined by heavily pigmented cubical cells, (3) small defined areas of glial tissue. The latter provided the key to the essential nature of the tumour—namely, derivation from primitive neural ectoderm.—MACDONALD, A. M., and WHITE, M. (1954), *Brit. J. Surg.*, **41**, 610.

SOME PRESENT-DAY ASPECTS OF TREATMENT OF PERIODONTAL DISEASES

THIS is an up-to-date review of the treatment of periodontal diseases with particular reference to local measures. The basic importance of scaling and curettage using extremely fine instruments is stressed, and the use of the Blake knife in gingivectomy is recommended. The value of orthodontic treatment and equilibration by grinding is stressed and the value of antibiotics briefly mentioned. Bifurcation and trifurcation involvements are commented upon, as is the problem of the intra-bony pocket. This paper is supported by some extremely good photographs showing the use of a Hirschfeld calibrated silver point, the Cross calculus probe, the passage of an interdental stimulator between the roots of a mandibular molar and a maxillary molar in which the palatal root has been amputated.—CROSS, W. G. (1954), *Tijdschr. Tandheelk.*, **61**, 72.

A CASE OF TRANSPOSITION

By **HAROLD E. SIMPSON**, B.D.S. (Dunelm).

Department of Oral Pathology, Sutherland Dental School, Newcastle-upon-Tyne

THE patient, a young man of 29 years of age, complained of the appearance of his teeth.

On examination it was seen that the right maxillary central incisor was rotated and the right maxillary lateral incisor and canine were transposed (*Figs.* 1, 2).

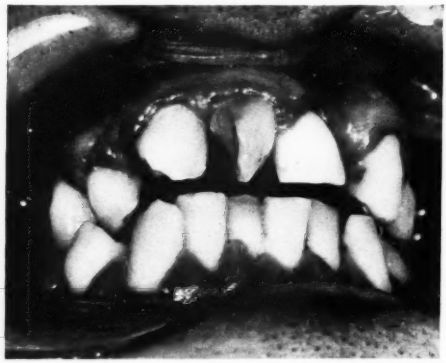

Fig. 1.—Clinical appearance of anterior teeth.

Radiographs showed that the root of the central incisor was dilacerated (*Fig.* 3). No history was available.

It is interesting to speculate whether the condition of the central incisor was due to injury to its deciduous predecessor, in which case possibly the pulp of the deciduous lateral incisor was killed at the same time. This might have resulted in the undue retention of the deciduous lateral, which in those circumstances would resorb more slowly than usual, the permanent lateral consequently erupting in a markedly distal position. The permanent canine would then erupt in the position of the lateral when the deciduous tooth was eventually lost.

Acknowledgement.—I wish to acknowledge the assistance of the Photographic Department of the Newcastle-upon-Tyne Dental Hospital in preparing the photographs.

Fig. 2.—Radiograph showing transposition of lateral incisor and canine.

Fig. 3.—Radiograph showing dilaceration of root of central incisor.

SOCIETY NOTES

NATIONAL ASSOCIATION OF DENTAL LABORATORIES

An educational conference to establish standards of education and set up a programme for improving the status of dental laboratory technicians will be a feature of the meeting of the National Association of Dental Laboratories in New Orleans on Sept. 16–19.

Scheduled for Sept. 17, the Conference will be under the chairmanship of G. Paul Stough, of Cleveland, past President of the N.A.D.L., and will feature studies of on-the-job educational facilities. While individual programmes of education have been functioning in various states, there has been no co-ordinated programme on a national scale. The Conference is directed towards the exploration of the possibilities of setting up such a dental prosthesis educational programme.

In addition to the Conference, a programme devoted to improving the sales and advertising programmes of individual laboratories has been prepared, and outstanding speakers have been selected from the dental trade field.

SOCIETE FRANCAISE D'ORTHOPEDIE DENTO-FACIALE

The Twenty-eighth Congress of Société Française d'Orthopédie Dento-faciale will be held at Albi (Tarn), May 19–22, 1955, inclusive. Further details of the Congress will be published later. Orthodontists who are not members of the Society, but who would like to receive further details regarding the organization and programme of the Congress are asked to write to the President of the Session: Docteur Merle-Beral, 2, Avenue Gambetta, Albi, Tarn.

COURSES FOR DENTAL TECHNICIANS

The Dental Technicians' Committee, Eastman Dental Hospital, Gray's Inn Road, London, W.C.1., have arranged Evening Courses for dental technicians in Crown and Bridgework, Full and Partial Dentures, Dental Materials, and Orthodontics commencing in October, 1954. Each course will consist of twelve sessions which will be held fortnightly. The courses will be of an advanced nature and are primarily intended for adult technicians. In addition, special evening courses will be held in Crown and Bridgework, Partial Dentures, and Orthodontics which will be limited to ten members and supervised throughout by specialist dental surgeons. These additional courses are intended only for technicians who are actively engaged, or who are intending to be engaged, in these subjects.

Further particulars and application forms, which must be returned on or before Sept. 13, 1954, may be obtained from the Hon. Secretary, Dental Technicians' Committee, Eastman Dental Hospital.

BOROUGH POLYTECHNIC
Borough Road, S.E.1

Dental Technology

Enrolment for classes in Dental Mechanics will take place on Sept. 22 and 23, between 5.30 and 8.0 p.m.

Courses Available.—City and Guilds: Intermediate and Final; Advanced Orthodontics; Advanced Crown and Bridgework.

Special Courses.—Partial Denture Construction including Chrome Cobalt Alloys.

Dental Mechanics, *Practical only*, for students wishing to improve their knowledge and skill in the craft.

Prospectus may be obtained from the Secretary.

DENTAL RADIOGRAPHY

A three-day course in dental radiography has been arranged for dental nurses and assistants to take place on Wednesday, Thursday, and Friday, Sept. 22, 23, and 24, at the Ilford Limited Department of Radiography and Medical Photography, Tavistock House North, Tavistock Square, London, W.C.1. Lectures will be given in the mornings from 10 a.m. to 12.30 p.m., followed by practical demonstrations in small groups in the afternoons from 2 p.m. to 4.30 p.m. No fee is charged for this course. Application forms will be sent on request.

The Nature and Place of Removable Appliances in Orthodontic Treatment

In the first half of the paper the author discusses some general principles of orthodontics.

One of the commonest errors is to confuse our concept of the ideal with normality. It is quite normal and natural to be fairly ugly, inefficient, and stupid.

On a purely scientific basis the practice of orthodontics is, and always will be, completely

ABSTRACTS
from Other Journals

impossible, for the simple reason that infinite variation, whether in orthodontics or anything else, cannot conform to any obviously futile attempts at exactness of formulation which are based on hopelessly inadequate statistical, quantitative, dimensional, or orientative plans which leave out of consideration functional and volitional elements which are quite impossible of exact scientific calculation.

The first and most important principle or act of procedure in treatment is to study and compare the natural occlusion with what has been fully described in the author's previous papers as the position of "optimum occlusal relation".

The second principle consists of devising for each successive step in treatment the appliances best suited to the problems of the moment, co-ordinating the actions of the appliances used in the opposing jaws in order to avoid all possible trauma and allow the utmost freedom of movement of both the jaws and teeth while changes are taking place.

The third principle of treatment is that as action is followed by reaction, which is never quite predictable, a complete re-evaluation of the entire case should be made at each visit of the patient.

The orthodontist has at his command four means to produce tissue re-adjustments: surgical interference, natural tissue re-adjustments, induced tissue re-adjustments, and artificial mechanical pressure.

It stands to reason that in the course of treatment the less the forces of nature are interfered with by mechanical appliances, and the more the tissues can be altered by natural re-adjustments and induced functional changes, the more logical and natural is the treatment. This basic concept of treatment is diametrically at variance with the principles and methods employed in systems where all the teeth are banded.

In the second half of the paper the author describes in detail (with many illustrations) the mechanical construction and uses of the Crozat appliance.

It is necessary to start with a perfect set of stone models, which are trimmed so as to expose the necks of the teeth to be clasped slightly below the gum line in the approximate spaces.

The next step is the construction of perfectly fitting clasps. An additional piece of wire with free ends is fitted along the gingival borders of the clasped teeth on the buccal surfaces.

Anchorage is obtained by clasping appropriate teeth on both the right and left sides of the arches and these are connected by heavy 0·051 in. gauge wire.

Extension wires of 0·036 in. gauge then are added on both the lingual and buccal surfaces of the clasp wires over the occlusal surfaces for a few millimeters of length to prevent the clasps from riding too far gingivally.

As all these pieces are being assembled, they are attached and held in place on the stone models by small amounts of quick-setting plaster-of-Paris.

The models then are placed on the soldering block, heated up, and soldered with a free flame from a blowpipe. All the joints are soldered at the same time. It is desirable to use high carat gold solder (18 carat) in this first soldering.

From this point on, an infinite variety of both buccal and lingual attachments may be added, limited only by the resourcefulness and ingenuity of the operator.—JACKSON, A. F. (1953), *Amer. J. Orthodont.*, **39**, 818.

Is Sodium Fluoride best for Topical Application?

The ability of various fluoride compounds in inhibiting acid action when applied topically to the intact enamel surface of freshly extracted teeth was studied. It was found that sodium, potassium, and ammonium silicofluorides protect the enamel surface against acid action much more effectively than do any of the other simple inorganic or complex fluoride salts tested. Sodium silicofluoride was extremely effective, being approximately 400 times more effective than sodium fluoride. These results suggest that sodium silicofluoride when applied topically to the enamel might be much more effective than sodium fluoride. This is now being tested clinically.—MASSLER, MAUREY (1954), *J. Dent. Child.*, **21**, 14.

Stress Breakers which automatically return the Saddle to Rest Position

A method of construction for lower free-end saddle partial dentures is described. One element of the denture consists of a lingual bar carrying male slides seating in slots in inlays in the abutment teeth. The abutment inlays themselves carry lugs seated into inlays in the adjacent teeth. Vertical displacement of the lingual bar assembly is prevented by a spring wire passing from the superior surface of the lingual bar, between it and the distal surface of the abutment, locking into a notch buccal to the slot. The distal surface of the lug support is ridged to give vertical guidance to the saddle, this being attached to the cast lingual bar by a gauge 10 or 12 wrought wire which is soldered into a housing at the lower border of the bar. By this design the saddle is returned to the rest position by the wire and not solely by the resilience of the soft tissues.—JAMES, A. G. (1954), *J. pros. Dent.*, 4, 73.

The Fundamentals of Occlusion

This is an extremely sound survey and an analysis of concepts of occlusion from an early date up to the present. The author stresses that the original static anatomical conception of a central occlusal position of optimal cuspal contact has given way to a broader dynamic conclusion. He considers that there are three components of the occlusion; these are: interdigitation of teeth, not necessarily in the central position, as this is only a transitory phase of the functional cycle; status of the controlling musculature; the temporomandibular joint morphology and action.

He concludes that there are the following qualifiying factors in determining the different positions of the mandible: physiologic rest position, dependent upon inherent developmental factors; periodontal integrity; masticatory habit patterns and individual tooth positions; whilst the centric position is primarily dependent on the temporomandibular joint relations. It is the interaction of all three components of occlusion which establishes the three mandibular positions. No one of these factors alone is sufficient.—GRABER, T. M. (1954), *J. Amer. dent. Ass.*, **48**, 177.

Traumatic Occlusion and Mandible Repositioning

In a consideration of the importance of occlusion and functional relation of the teeth, the author states his belief that these are the ultimate objectives of dentistry. He considers that ideally cuspal interference should have been prevented or corrected by early orthodontic treatment.

Stress in anterior regions cannot be correctly relieved by grinding the facets on labial surfaces of mandibular anterior teeth. Attention is drawn to the fact that cuspal interference often exists on the balance side, so disturbing lateral excursions whilst that which is responsible for abnormal wear of inclined planes and cusps should be relieved, as should cuspal interference which produces a forward thrust of the mandible.

Development of anterior stress by forward repositioning of the mandible, cuspal interference, and inhibition of normal lateral excursions not only decrease efficiency in mastication, but may lead to destruction of the supporting tissues, temporomandibular joint anomalies, or other pathological changes.

Removal of cuspal interference by judicious grinding is recommended as a way of producing functional equilibration.—Ogle, M. W. (1954), *J. Amer. dent. Ass.*, **48**, 527.

Le Traitement Fonctionnel des Parodontopathies

The specific sensitivity of the periodontium to functional disturbances necessitates their early recognition, prevention, and elimination. Functional diagnosis demands comprehensive orthodontic knowledge concerning the development of the human bite and its influence and formation as an actively functional link in the chain of the mandibulo-maxillary system. It includes in particular the recognition and clarification of functional disturbances in the defective bite associated with periodontal diseases (Lubeck's diagonal law.) Functional treatment of periodontal diseases has the task of arresting, re-establishing, and improving the functional performance of the mandibulo-maxillary system in all its components. Occlusal equilibration constantly accompanies the dental prophylaxis and treatment of periodontal disease. Important principles are laid down for functional prosthetic therapy in cases of defective bite associated with periodontal disease.—Lubeck, A. (1954), *Parodontologie*, **8**, 5.

Hereditary Gingival Fibrosis : Study of a Family

A report of a family in which the father and six siblings were afflicted with hereditary gingival enlargement is presented. One other living child did not show this condition. No other inherited abnormalities were found. Slight difficulties in speech, mastication, and personality were present, but the general health was unimpaired and skeletal maturation was within normal limits. Eruption of both series of teeth was delayed, but calcification was within the normal range.

Histological examination showed all the previously reported characteristics together with calcified structures in the connective tissue.

The oldest child was treated by the surgical removal of the excess gingival tissue, extraction of the retained primary teeth, and exposure of the permanent teeth by the removal of overlying bone.—Savara, B. S., Suher, T., Everett, F. G., and Burns, A. G. (1954), *J. Periodont.*, **25**, 12.

LETTER TO THE EDITOR

Ravocaine

July 7, 1954.

Dear Sir,

I found Mr. Cutler's article on "Ravocaine" of great interest, and I hope you will receive reports from other readers on this excellent preparation.

I have only been using it for a short time, and have so far had one case of slight pallor for a few minutes following a mandibular injection. The patient, however, made no complaint, and the effect passed off quickly. It may possibly have been a psychological result of previous injections.

The results, otherwise, have been uniformly excellent, especially when one of the new S.S. White needles is used.

It would be interesting to know what is the *p*H of "Ravocaine", as the only drug which I have used which gave similar good results was the (alas, now unobtainable) alkalized "Novocaine-Cobefrin" solution.

Yours faithfully,

W. G. Carnegie Dickson.

4, *Edgar Buildings*,
Bath.

[*Editor's Note.*—The makers state that "the *p*H of 1 per cent solution is 5·5 which is adjusted to 7·0 without precipitation".]

DENTAL PRODUCTS

Except in certain overseas markets Imperial Chemical Industries Ltd. have disposed of their rights and goodwill vested in the names "Kallodent", "Kallodentine", and Acrylic Denture Base in bulk, to the Dental Manufacturing Co. Ltd., of Brock House, 97, Great Portland Street, London, W.1. The transfer was effective from July 1, 1954. The Dental Manufacturing Co. Ltd. will continue to supply these products to the former customers of I.C.I. and will provide technical service similar to that formerly available.

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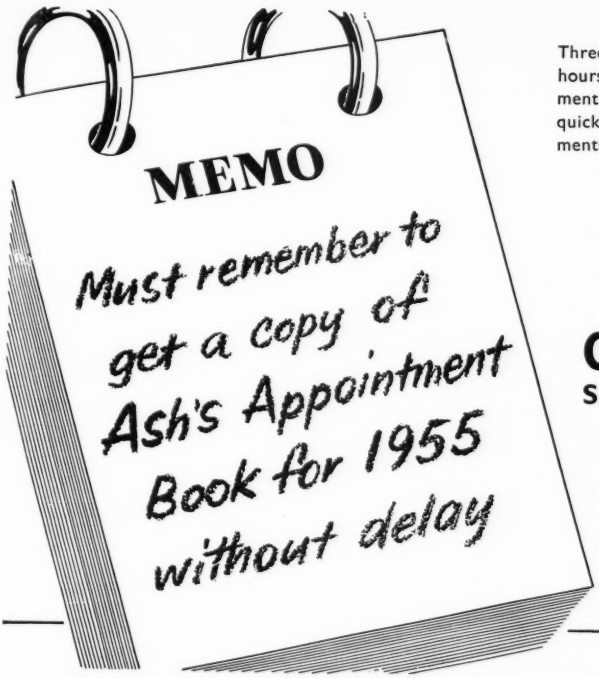

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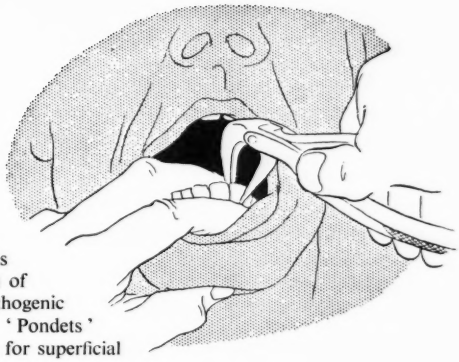

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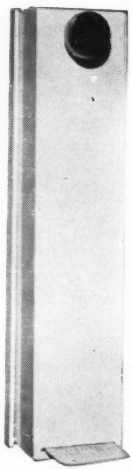

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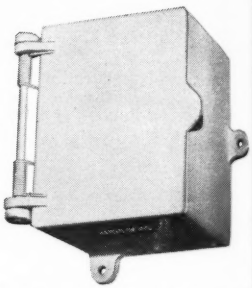

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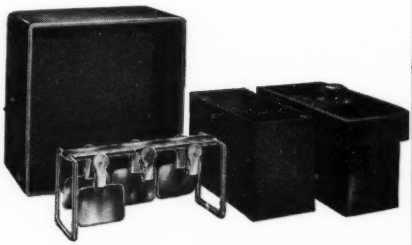

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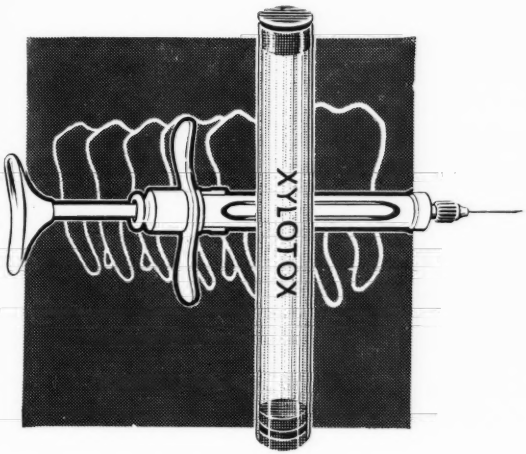

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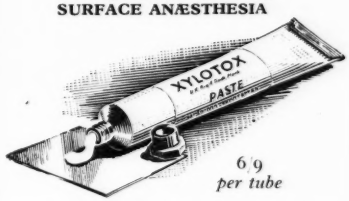

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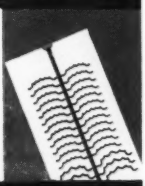

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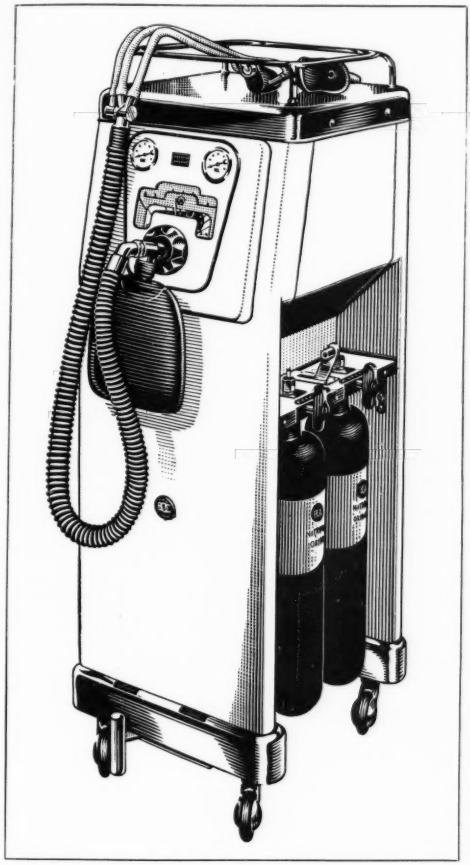

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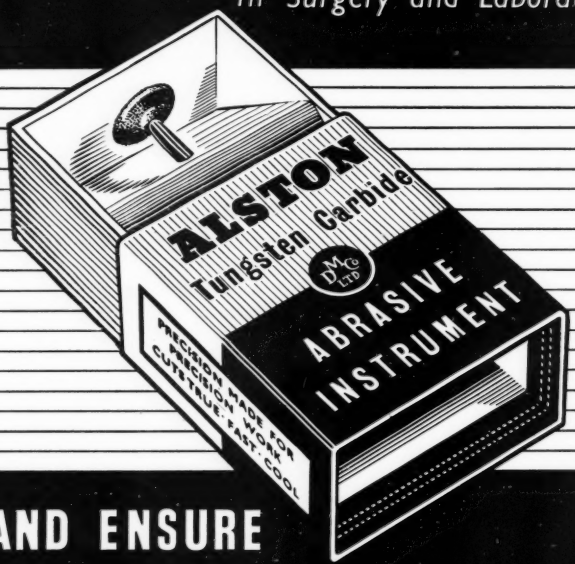

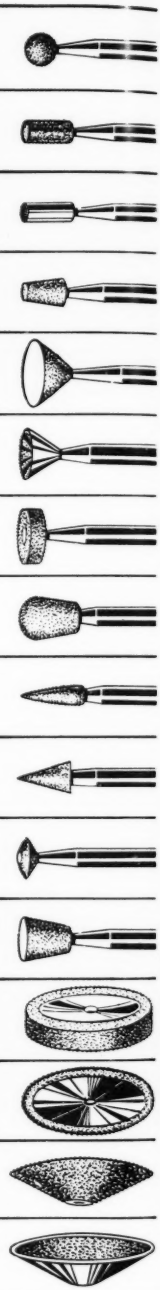

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